5 FAM 600
INFORMATION TECHNOLOGY SYSTEMS

5 FAM 610
DEVELOPING AND MANAGING INFORMATION TECHNOLOGY (IT) SYSTEMS

(TL:IM-31; 07-02-2001)

5 FAM 611 GENERAL

(TL:IM-31; 07-02-2001)

a. This policy is established to ensure the effective and efficient development and maintenance of Department of State information technology (IT) systems.

b. Project managers must adhere to this policy throughout the life of the IT system.

c. Project managers must take a life cycle management course before managing an IT project.

d. Managers of projects that require review before one of the Information Resource Management Program Boards (IRMPB) must take the "Managing State Projects (MSP)" course offered by the National Foreign Affairs Training Center (NFATC).

e. Beginning fiscal year 2001, the Department will implement an acquisition reform initiative that must be the standard for new contracts. This initiative will require the use of performance-based service contracts (see 5 FAM 624.2).

f. *All projects must be certified by Diplomatic Security, Office of Information Security Technology, Analysis and Certification Division (DS/IST/ACD). See 5 FAM 619, Security Certification.*

g. *The Electronic Signature (E-Sign) provision authorizes the use of a digital signature for contracts and other legal forms and documents that are usually written on paper.*

5 FAM 612 SCOPE AND AUTHORITY

(TL:IM-31; 07-02-2001)

a. This policy is the foundation for managing the development, integration, and operation and/or maintenance of Department of State IT systems. It applies to all Department of State personnel (including contractors, vendors, and suppliers) involved in systems *and*/*or* program planning, development, modification, integration, and operation *and*/*or* maintenance projects.

b. This policy provides guidance to project managers and project teams and defines their roles and responsibilities for accomplishing successful results.

c. The authorities establishing this policy are as follows:

(1) Pub. L. 96-511, Paperwork Reduction Act, as amended;

(2) Pub. L. 104-106, Information Technology Management Reform Act of 1996;

(3) Pub. L. 103-62, Government Performance and Results Act of 1993;

(4) OMB Circular A-130, February 8, 1996;

(5) Presidential Decision Directive (PDD) 63, May 22, 1998;

(6) Federal Acquisitions Regulation (FAR) 7.102 and 10.002;

(7) FAR, Subsection 37.6; and

(8) Pub. L. 106-229, Electronic Signatures in Global and National Commerce Act, June 30, 2000.

5 FAM 613 DEFINITIONS

(TL:IM-31; 07-02-2001)

Annual Operating Costs. A one-year expenditure or cost projection for required resources to produce products and services.

Benefit Cost Analysis (BCA). A project development technique used as a systematic approach for comparing alternatives in project development; see also **Simplified BCA**.

Capital Expenditures. Costs incurred for purchasing capital assets or tangible property, including durable goods, equipment, buildings, installations and land.

Capital Planning. A systematic effort to manage the risks and returns on capital assets for a given mission.

Capital Planning and Investment Control (CPIC) Process. A process for funding approval for projects where risks and returns of capital assets meet the Department's goals for capital planning.

Concept of Operations Document. A detailed document that defines and establishes the human to machine workflow of the product for the operational environment.

Configuration Management. The process of identifying and defining the change control items in a system, controlling the release and change of these items throughout the system's life cycle, recording and reporting the status of configuration items and change requests, and verifying the accuracy and completeness of configuration items.

Control Gate. A management review process in the project cycle designed to examine and evaluate project status (milestones) and to determine if the project will proceed to the next management event.

Conversion. Addresses requirements to change software, hardware, data values, forms or organizational structures to enhance data use.

Data Administration. The Department's management tool for developing, standardizing, maintaining, and approving data elements for use in IT systems development projects.

Data Mapping. A method used to identify and link selected data to one or more equivalent standard data elements.

Data Modeling. Identifies informal graphical and textual representation, the entities and relationships involved in a data process; provides a mechanism to understand the intended activity of a new system and designing the data.

Electronic Signature (E-Signs). *E-Sign applies broadly to Federal and state statutes and regulations governing private sector (including business-to-business and business-to-consumer) activities. The government may establish appropriate performance standards for the accuracy, integrity, and accessibility of records retained electronically, to ensure compliance with applicable laws and to guard against fraud.*

Executive Management. Personnel (i.e., division chiefs, office directors, policy staff assistants) directly responsible for the approval and management of program planning and implementation, staffing requirements and assignments, and budget allocation and disbursement.

Information System. A set of resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information.

Information Technology Change Control Board. *A centralized body of knowledgeable personnel with the appropriate authority to evaluate change requests that impact the operational stability or maintainability of IT assets controlled, managed, or supported by Department of State.*

Managing State Projects (MSP). A specific project management method consisting of periods, phases, activities, and control gates, designed specifically for the Department of State.

Performance-Based Service Contracts. Contracts that describe work in terms of results needed, use measurable performance standards, and provide for price reductions when acceptable work is not performed.

Performance Measures. Indicators of progress toward achieving goals and objectives.

Product Assurance (PA). The project function responsible for overseeing all aspects of achieving the required quality performance. Includes inspectability, testability, process control, and related factors. Also called the PA process.

Program. A coordinated group of planned undertakings (projects) having a common goal, objective, or mission.

Project. Any undertaking to achieve a desired result within defined budget and schedule constraints; a planned effort with a performance goal, scheduled start and end dates, and a budget.

Project Plan. A documented collection of achievable goals that establishes a beginning and end; groupings of milestones and tasks; in MSP, a collection of control gates based on a work breakdown structure outlining tasks.

Quality Assurance. A process consisting of features and functions used in project development to ensure that the system is reliable, authentic, and meets all the requirements of the quality assurance plan.

Risk. The potential for encountering negative technical, costs, or schedule impacts in a project.

Risk Management. A method to identify and evaluate risks associated with a project and incorporate input into planned project goals.

Simplified BCA. A scaled down version of the BCA that focuses only on those elements that the project manager deems relevant.

Study Period—MSP. The conceptual design phase, i.e, requirements gathering, detail design; time used to establish the scope and direction of the project by recommended phases, i.e., user requirements definition, concept definition, system definition, and acquisition planning.

System. A combination of hardware, software, facilities, personnel, data, and services to perform a designated function with specified results to user(s).

Task Manager. The person on the project team responsible for ensuring completion of tasks in the work breakdown structure of the project plan; the individual responsible for managing a task or cost account.

Validation. The generic term that applies to the whole range of data quality issues, from elimination of duplicate records to compliance with format standards to matching values with reference tables.

Vendor. A supplier of material or services sold from a catalog or price list. This material or service is covered by a purchase order rather than a contract.

5 FAM 614 ACQUISITION REFORM INITIATIVE

(TL:IM-29; 02-04-2000)

a. The Under Secretary for Management has directed that managers follow acquisition reform standards for contractors. This initiative requires that contractors be accountable for their performance by producing tangible results.

b. The Competition Advocate, Office of the Procurement Executive (A/OPE) will spearhead this initiative for implementation in the year 2000. Beginning fiscal year 2001, all new service contracts must be performance based unless justified in writing and approved by A/OPE.

c. A/OPE will ensure that program offices let contracts that are solutions based and results oriented.

5 FAM 614.1 Contractor Services

(TL:IM-29; 02-04-2000)

a. The Federal Acquisition Streamlining Act and the Government Performance and Results Act of 1993 require that Federal agencies use contractor services that are performance-based service contracts with defined deliverables and performance standards.

b. Program offices must arrange for training of employees who write statements of work for contract services. Employees may receive training through the National Foreign Affairs Training Center (NFATC) or from other sources.

c. The Department is accountable to the Office of Management and Budget for periodic reports on the progress made in performance-based service contracting.

5 FAM 614.2 Responsibility

(TL:IM-29; 02-04-2000)

a. The program office, contracting officer representative (COR) is responsible for implementing performance-based service contracting. The COR is also responsible for the quality of the statement of work and should reject procurement requests that do not meet this requirement.

b. Project managers should establish ways for scrutinizing incoming procurement requests for service contracts in project development.

c. The Department must rely on contractors to achieve results and obtain measurable benefit for contract dollars.

5 FAM 615 THE PROJECT PLAN

(TL:IM-29; 02-04-2000)

A project plan is required for all projects. A typical project plan should include tasks, schedule, tasks assignments, resources, and expected results. All project plans must include the following:

(1) Project background—Briefly describe effort and state goals;

(2) Responsibilities—Name key personnel;

(3) Objectives and performance measures—Clearly state objectives and how they will be accomplished;

(4) Work breakdown structure—Identify major work elements to accomplish the goals;

(5) Issues, risks, constraints—Identify concerns, problems, and possible delays;

(6) Annual operating costs—Estimate annual operating costs; and

(7) Signatures—Project manager must sign and secure other approval signatures as required.

5 FAM 616 REVIEW BOARDS

(TL:IM-29; 02-04-2000)

a. The following senior level boards were established to evaluate IT projects.

(1) The Information Technology Program Board (ITPB) reviews and monitors projects with life cycle values of $30 million or more, or those determined by the Under Secretary for Management to be of critical importance to the mission.

(2) The two lower senior-level boards, the Management Review Advisory Group (MRAG) and the Technical Review Advisory Group (TRAG) review and monitor those projects with life cycles below the $30 million threshold.

b. Both advisory groups review proposed IT programs to ensure that technical objectives can be achieved and proposed projects are sound investments that contribute to the Department's strategic goals for IT endeavors. The TRAG reviews the technical and business merits of each project and the MRAG reviews and approves the financial structures for the life cycle of submitted IT projects.

5 FAM 617 ROLES AND RESPONSIBILITIES

(TL:IM-29; 02-04-2000)

At the beginning of every project, personnel must be assigned roles. One person may perform multiple roles or several people may fill one role. Executive management is responsible for the overall direction, policy, and priorities of IT programs and projects. Project roles and responsibilities are listed below.

5 FAM 617.1 Executive Management

(TL:IM-29; 02-04-2000)

Executive management facilitates support and resolves conflict. Responsibilities include the following:

(1) Commits appropriate resources to the project;

(2) Defines review board(s) goals and objectives;

(3) Defines and clarifies corporate goals through established architecture using review board(s) results;

(4) Appoints project manager and defines project manager's authority to lead and control work and resources;

(5) Defines decision channels for project;

(6) Provides project manager with long range planning and budget information to establish timely control gates within the project plan; and

(7) Ensures that the project operates within budget constraints.

5 FAM 617.2 Project Manager

(TL:IM-29; 02-04-2000)

a. Every project must have a project manager to oversee the effort throughout its life cycle. The project manager assigns specific roles and responsibilities to the project team based on the nature of the project.

b. The project manager:

(1) Manages resources and activities to meet technical objectives and satisfy user requirements (ensure completion of concept of operations document);

(2) Is accountable for overall planning, direction, and execution;

(3) Directs team, monitors progress, and resolves conflict;

(4) Reviews requests for development and technical products, problem reports, and change requests;

(5) Keeps abreast of changes to the operating environment to determine how to properly respond;

(6) Ensures that the project operates within budget constraints;

(7) Manages the budget and ensures timely funding by executive management if project exceeds budget year(s); and

(8) Controls configuration management (CM) processes and establishes quality assurance (QA) guidelines for the team.

5 FAM 617.3 Project Team

(TL:IM-29; 02-04-2000)

a. The Project team is comprised of members with various technical and functional levels of expertise, i.e., analysts, contractors, technical writers, and programmers.

b. At a minimum, the project team will consist of the following members:

(1) Project manager;

(2) Project task manager for tasks that are established within the work breakdown structure of the project plan;

(3) Budget coordinator;

(4) Product assurance manager;

(5) End user and/or sponsor; and,

(6) Vendor and/or contractor representative if a contract is in place.

c. Team members are assigned tasks by the project manager and work together to accomplish the following tasks:

(1) Research and analyze requirements;

(2) Coordinate budget and resource requirements;

(3) Report periodically to project manager or project task manager;

(4) Produce product assurance documentation; and,

(5) Represent vendor and/or contractor to assist with deliverables, if necessary.

d. Team members may not be required to serve on the project team for the duration of the project.

5 FAM 617.4 Sponsor

(TL:IM-29; 02-04-2000)

The sponsor is the primary point of contact in the end user (sponsor) organization. The sponsor does the following:

(1) Submits and authorizes development requests;

(2) Commits resources to define and specify requirements;

(3) Represents the user and/or customer;

(4) Interacts with the project manager and others outside of the sponsor organization;

(5) Coordinates user participation when necessary;

(6) Participates in quality assurance and security reviews;

(7) Reviews and approves products;

(8) Accepts the system when it meets users' requirements; and

(9) Provides input for final review and approval of the end product.

5 FAM 617.5 User And/Or Customer

(TL:IM-29; 02-04-2000)

Anyone who will use the system or end product being developed and/or accepts the end product(s) is a user or a customer. The user and/or customer specifies that software requirements are based on business needs by participating in interviews and providing reference materials to substantiate requested replacement system. The user and/or customer may provide additional input as follows:

(1) Reviews documentation and design reviews prepared by the project team;

(2) Develops and/or approves acceptance test;

(3) Administers and participates in acceptance test;

(4) Prepares appropriate administrative and/or user documentation;

(5) Develops a concept of operations document;

(6) Participates in system/product testing; and,

(7) Accepts system after user requirements are satisfied and releases to production.

5 FAM 617.6 Product Assurance Manager

(TL:IM-29; 02-04-2000)

The product assurance (PA) manager is the primary contact for quality assurance and configuration management issues. The PA manager:

(1) Monitors and updates development requests per the initial statement of work or functional requirements;

(2) Ensures that project manger establishes an IT engineering process based on MSP or other approved engineering processes;

(3) Interacts with the project manager and others outside of the sponsor organization concerning all CM and/or QA issues;

(4) Participates in quality assurance reviews;

(5) Reviews and approves products;

(6) Establishes and records a baseline for the product throughout its life cycle; and

(7) Defines product naming and tracking standards.

5 FAM 617.7 Data Administrator

(TL:IM-29; 02-04-2000)

The data administrator develops, maintains, and approves standard data elements for use in systems development projects, provides the control mechanisms for using accurate and effective corporate data, and coordinates with the Data Administration Working Group (DAWG) on behalf of the project team.

5 FAM 618 RISK MANAGEMENT

(TL:IM-29; 02-04-2000)

a. Risk management is a process used to manage or predict future outcomes based on present knowledge. Project managers must identify issues that may present future problems.

b. Risk assessment judges the probable effect of each risk factor on the project so that the project manager can minimize the effort in responding appropriately.

c. A risk is usually brought about by lack of resources, lack of information, or lack of control over the decision-making process. An analysis of this risk and any strategy adopted to control it should consider these causes. Common risk factors include (but are not limited to) the following:

(1) Volatility of requirements;

(2) Project scope;

(3) Project management ability;

(4) Project staffing levels and skills;

(5) Technology experience and degree of innovation;

(6) Technical complexity;

(7) Realism of project schedules;

(8) Availability of funding;

(9) Senior management support;

(10) Number and types of procurement;

(11) Security risks;

(12) Logistics and/or transportation of materials; and

(13) Host country factors (customs, infrastructure).

d. Project managers should consider these basic risk control strategies:

(1) Reduce the likelihood or consequence of risk (e.g., “buy” information, such as with a study or prototype);

(2) Protect the project from risk by arranging the project plan to accommodate it (much like fault tolerance);

(3) Set up contingency funds or additional time to cover unexpected loss;

(4) Decide whether to accept the consequences; and

(5) Focus visibility and management attention on clearly defined tasks (i.e., control gates).

5 FAM 619 SECURITY CERTIFICATION

(TL:IM-31; 07-02-2001)

a. Security safeguards are designed to protect the automated information system and its data against unauthorized access, modification, destruction, and unavailability.

b. Project managers must communicate with *Diplomatic Security, Information Systems Technology, Analysis and Certification Division (*DS/IST/ACD*)* during the study period to ensure timely certification and to avoid unnecessary delays.

c. *Systems must undergo certification and accreditation evaluation by DS/IST/ACD before implementation.*

d. Project managers should estimate the cost of incorporating each safeguard and/or countermeasure into the system. Consider programming, time needed for testing, security equipment purchases, etc.